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Kampus Sungai Petani

Faculty of Administrative
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PROMOTING MALAYAN EMERGENCY STATE BY USING GAMING PLATFORM AS AN ILLUSTRATIVE MEDIUM

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ABSTRACT
Based on a series of events that took place in 2019 that seemed to elevate the Malayan communists as freedom fighters, rather than terrorists. If the narrative were to succeed, it would mean that the services of soldiers and security forces fighting day and night would be forgotten (Prof Dr. Zainur Rashid Zainuddin, 2020). Previous research shows that this issue arises because people already forgot the history of our nation. This was also proven from our survey research and findings. To strengthen the memory, we develop a game design which focuses on events happened during Malayan emergency 1948 -1960. This research is about using a gaming platform as an illustrative medium to promote the Malayan emergency state. Hence, the design objective is to remind the young generation to be discreet and vigilant towards the ideologies of communist.

Keywords: Game-Based Education, Malayan Emergency, Illustration.

INTRODUCTION

The Malay Emergency (Malay: Darurat Malaya) was a guerilla war waged between 1948 and 1960 at Federation of Malaya. The dispute was between the armed forces of the Commonwealth, the pro-independence rebels of the Malay National Liberation Army (MNLA) and the Malayan Communist Party's (MCP) military wing. By the lead of Chin Peng as the President, the goal of the communists was to seize power from the British and replaced it with a Communist Republic. However, they acted brutally and killed civilians to spread communist ideology.

Based on a series of events that took place in 2019 that seemed to elevate the Malayan communists as freedom fighters, rather than terrorists. From an article by Prof Dr. Zainur Rashid Zainuddin in Harakah Daily, 2020, there are a few events that prove the ideology of communist is being resurrected in these past years such as: (1) There are parties who are malicious by raising the wrong Malaysian flag which is the 5-star flag at the opening ceremony of the 28th Basketball Championship organized by MABA in November 2019. (2) A senior DAP leader (NKM) who claim that his grandfather is a national hero while actually are involved in Malayan People Anti-Japanese Army (MPAJA) activities and the Malayan Communist Party (August 2019). (3) The ashes of the Communist terrorist leader, Chin Peng, were brought into Malaysia on 16 September 2019 and welcomed by 150 individuals in Ipoh Perak before being scattered into the sea near Lumut, Perak and in the Banjawan Titiwangsa Forest (November 2019).

Nowadays, there is a lot of game used as an illustrative medium especially history related games. To name a few, Battlefield 1 is a gameplay about world war one, Call of Duty: WWII by Activision is about world war two, and lastly Assassin's Creed III is a gameplay during American liberation. Each of them with a good storytelling to take players inside this historical world. Using current technology, they can create immersive environments and detailed

historical characters.

FUNCTION AND DEFINITION OF USING GAMING PLATFORM AS AN ILLUSTRATIVE MEDIUM

In the light of recent work, it shows that the average person responds far better to visual information compared to just plain text. According to Harris Eisenberg, (2014) this is since 90% of information transmitted to the brain is visual, and visuals are processed in the brain at 60,000 times the speed of text. In other words, people tend look at pictures and videos regularly and consume them more quickly than texts. On a neurobiology & behavior perspective, a research done by Craig Stark, (2015) state that video games are not created with specific cognitive processes in mind but rather are designed to immerse users in the characters and adventure. They draw on many cognitive processes, including visual, spatial, emotional, motivational, attentional, critical thinking, problem-solving and working memory. In other words, playing three-dimensional video games can boost the formation of memories of the events that occurs during the gameplay. Therefore, people will understand faster towards contents that contain images and visual compared to only texts content.

Using games as a learning method is not a new thing. Game-based learning is the creation of learning activities to inherit game functionality and game concepts within the learning activities themselves (see Vandercruysse et al., 2012). Not to be confused with Gamification. To improve participation and motivation, gamification is the incorporation of game elements into "conventional" learning practices (Halden Ingwersen, 2017). In short, Gamification converts the learning process into a more interactive environment like a game, while Game-Based Learning (GBL) uses a game as a platform for learning.

One of the problems that this issue rises is because people already forgot the history of our nation. Almost everyone in the community has forgotten what our fighters been through (Ismail Che Ros, 2019). Malayan Emergency is the sixth chapter in the Malaysia Highschool form 4 History Textbook KSSM published in 2020. Nevertheless, by understanding the details of the major events, students can memorize the larger aspect of the story. The details are like little sticky mental notes that help the viewer remember the bigger plot. As they watch, it helps them construct a mental picture and fortify their memory (Doug Rose, 2016).

Lastly to support this statement, two years study done by Mehmet Sükrü Kuran at Abdullah Gul University in Turkey (2018) and his colleagues shows that one of his game series was clearly better for learning purposes. They achieve this by creating an undergraduate history course in which students use historical video games to understand their subject better. Due to their level of detail, high historical accuracy and flexibility in modelling various cultures and nations, the most detailed experience was given, and the result is the student able to understand and comprehend the history of the specific subject higher.

DATA ANALYSIS AND FINDINGS

The target audience for this research is young adults aged from 15 – 29 years old. The primary data is used to define trends and averages, make prediction, and generalize outcomes to larger populations. The survey was formed by 50 respondents and 66.7% are Malay teenagers, 76.7% aged around 21 – 25 years old. It shows that they are from higher education level which half

of them got minimum of degree level education. The findings are as follows:
53.3% of respondents only remember the history that they study during school classes using textbook. Furthermore, 43.3% of respondents did not know why the Malayan Emergency in 1948 was declared. This shows that among teenagers, there are still many people that does not know about the Malayan State of Emergency. Meanwhile, 96.7% of respondents agreed that an interactive gameplay can give a long-term memory to the player, plus teach the younger generation to appreciate the history of Malaysia more effectively.

Other data was also being collected from previous researchers' works. Below are the data:

Table 1. A Summary of Previous Works in History Educational Games Related.

Name	Method Used	Description
(Azizah Jaafar et al., 2009)	- Propose a comparison between Pedagogy and Digital Games approach towards students and present a bridge that connect the student engagement for each test.	- A detailed explanation on the phase and steps for the test including the characteristic of their subject to test (students). - Drawbacks: does not justify the concept, platform, genre, and gameplay mechanics that being tested towards the students.
(Zainal Arifin Hasibuan et al., 2011)	- Propose a 3D simulation game to preserve the culture and history of Indonesia using DayaBaya as a visualization medium and education.	- Details the genre, concept art, gameplay mechanics and the game engine used for the game as the platform to reach their objective.
(Wenda Novayani, 2019)	- Propose an education game from school syllabus by using role-playing strategy game to visualize and fortify the memory of the event.	- Specific the target chapter and does not bombast it with other unnecessary side event that will ruins the immersion of the gameplay. - Using the latest technology and game platform to tighten the gap between what the school students wants and how the knowledge being pass to.

In this secondary data, a vast majority of past review work had already focused on their history chapter and steps on achieving their goals. However, the lack in visual immersion and very focusing on education syllabus damaged the element of entertainment in video games.

CONCLUSION AND RECOMMENDATION

Having looked at data collected and all statistics from reliable sources, we can conclude that the communist ideology is still being raise by some irresponsible organizations. Yet, younger generation were still in blind. From the primary data taken, it is proven that people already forgot what causes the Malayan emergency state. From school students to advanced education level of PhD students, they do not have any interest in remembering the past. As they busy on shaping the future, the past event which shape today moments will be forgotten. This made it easier to alter their perspective on who is the real terrorist, and which one is the real fighter to fight for the independence for this nation. For that reason, creating an interesting game which will be focusing on the event of the Malayan emergency state will be a good solution to overcome this problem. This is because, younger generation have a bigger interest in video games nowadays. As proven by the previous researcher, video games will help develop better long-term memory while following the interesting actual event that occurs during the Malayan

emergency.

PROJECT PROTOTYPE

For this project, we created a prototype of the game as the main idea and has two supporting item which is the concept art book for education purpose and in-depth explanation for the story, and a virtual reality/ 360˚ panorama video as an innovation for the illustration media.

Figure 1. Screenshot of the gameplay.

The storyline for this game will focus on two major war which is Bukit Kepong incident and Sungai Semur ambush. Also, to show how the villagers protect themselves against communist, another story followed the legendary of the red sash warrior (Panglima Selempang Merah) will also be added in the game. For this prototype of the game, only the story of Sungai Semur ambush is available. The player will follow Corporal Jamaludin to defend the area of Sungai Semur that being ambushed by the communist. The location is a re-creation from an interview with Corporal (retired) Salleh Nahu which describe the place and how the battle occurs.

Figure 2. Screenshot of the 360˚ panorama video titled Erti Perjuangan.

This 360˚ panorama video which been uploaded to YouTube can be viewed with or without the virtual reality headset. The purpose for this video is as a teaser for the game by showing a summary of the Malayan emergency state in 360˚ view. Viewers can feel and see in first person on how our great-grandfather fight during the emergency state. Together with audio and narrative, it is almost like a time machine itself.

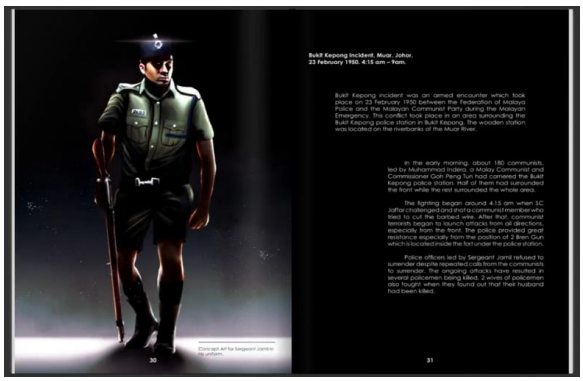

Figure 3. Screenshot of the digital e-book of The Art of Emergency State.

The objective for the concept art book is to show how the game developed, more details of the game story and as an education for students.

REFERENCES

Amran Yahya. (2019). Luka Bakti. Harian Metro. Retrieved from https://www.hmetro.com.my/utama/2019/08/486148/luka-bakti

Azizah Jaafar, Wong Seng Yue, & Nor Azan Mat. (2009). Digital game-based learning (DGBL) model and development methodology for teaching history. Retrieved from https://www.researchgate.net/publication/282054005

Craig Stark. (2015). Playing 3-D Video Games Can Boost Memory Formation. UCI News. Retrieved from https://news.uci.edu/2015/12/08/playing-3-d-video-games-can-boost-memory-formation-uci-study

Doug Rose. (2016). Defining Story Details. In Data Science. Retrieved from https://link.springer.com/chapter/10.1007%2F978-1-4842-2253-9_21

Halden Ingwersen. (2017). Gamification vs Games-Based Learning: What's the Difference? Capterra. Retrieved from https://blog.capterra.com/gamification-vs-games-based-learning/

Harris Eisenberg. (2014). Humans Process Visual Data Better. Retrieved from http://www.t-sciences.com/news/humans-process-visual-data-better

Ismail Che Ros. (2019, December 24). 11 persatuan polis bersara sertai himpunan anti-Komunis di KL. Malaysia Kini. Retrieved from https://www.malaysiakini.com/news/504772

Kuran, M. Ş., Erden Tozoˇ Glu, A., & Tavernari, C. (2018). History-Themed Games in History Education: Experiences on a Blended World History Course. Retrieved from https://www.researchgate.net/publication/324887078

Nor Azan Mat, & Wong Seng Yue. (2009). History educational games design. Proceedings of

the 2009 International Conference on Electrical Engineering and Informatics, ICEEI 2009, 1, 269–275. Retrieved from https://doi.org/10.1109/ICEEI.2009.5254775

Prof Dr. Zainur Rashid Zainuddin. (2020, February 17). Cubaan Hidupkan Ideologi Komunis. HARAKAHDAILY. Retrieved from https://harakahdaily.net/index.php/2020/02/17/cubaan-hidupkan-ideologi-komunis/

Vandercruysse, S., Vandewaetere, M., & Clarebout, G. (2012). Game-based learning: A review on the effectiveness of educational games. In Handbook of Research on Serious Games as Educational, Business and Research Tools (pp. 628–647). IGI Global. Retrieved from https://doi.org/10.4018/978-1-4666-0149-9.ch032

Wenda Novayani. (2019). Game Genre for History Education Game based on Pedagogy and Learning Content. Retrieved from https://www.researchgate.net/publication/339846841_Game_Genre_for_History_Education_Game_based_on_Pedagogy_and_Learning_Content

Zainal Arifin Hasibuan, Yugo K. Isal, Baginda Anggun Nan Cenka, Nungki Selviandro, & Mubarik Ahmad. (2011). Preservation of Cultural Heritage and Natural History through Game Based Learning. International Journal of Machine Learning and Computing, 460–465. Retrieved from https://doi.org/10.7763/ijmlc.2011.v1.69

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